

## Refereed papers

# Do information systems meet the needs of primary care trusts?

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### ABSTRACT

To function effectively, primary care trusts (PCTs) need information from a range of sources. The general practice clinical record is a key source of information for PCTs but has often proved to be of variable quality.

PCTs have developed rapidly and now have responsibility for 75% of the healthcare budget. They have a range of information needs that must be met if they are to ensure that healthcare provision meets the needs of patients. Since the abolition of health authorities PCTs have full responsibility for developing practice systems as well as having a key role to play in developing information management and technology (IM&T) within local health economies.

The paper describes the problems PCTs face in accessing information to support their core functions and the progress they have made in retrieving data to support service development. It also describes the progress and developments in information and information systems within general practice using data from the National Tracker Survey of Primary Care Groups and Trusts (PCG/Ts).

The survey began in 1999 when PCGs were established and has tracked the progress of PCG/Ts over three years. This paper presents the findings from the third survey relating to the development of information to support the needs of PCG/Ts.

The findings show that information available to PCG/Ts does not meet their needs in a range of key areas. Many PCG/Ts are collecting data to support the Coronary Heart Disease National Service Framework (CHD NSF) and monitoring some areas of service provision in general practice. The use of information management tools has risen significantly since the second survey and involvement in the Primary Care Information Services (PRIMIS) initiative has more than doubled.

The paper concludes that although PCG/Ts and general practices have made substantial progress, there is a long way to go before information providers generate high-quality information to support the needs of PCTs.

**Keywords:** accessibility, data retrieval, information systems, primary care trust

## Introduction

The data produced by National Health Service (NHS) information systems have historically been of variable quality. This is especially true of primary care information systems, which have developed erratically over the past ten years.<sup>1–3</sup> General practice systems have developed rapidly: over 98% of practices are now computerised and almost all have links to NHSnet (the NHS private intranet), email services and the Internet.<sup>4</sup> Opticians, dentists and pharmacists have separate computer information systems but these have developed

at a slower pace, mainly due to differences in funding. Community health services information systems have been developed in isolation from general practice systems, which has led to a position where community-based staff such as district nurses and health visitors enter data onto systems that are not linked to general practice systems. Mental health data are also held on separate systems. Thus primary care data are separated by a series of organisational boundaries. These boundaries are unhelpful, both to clinicians who may not be able to access appropriate information when they need it, and also to managers who may need such information to support the planning process.

In 1998, the NHS information strategy *Information for Health* described the need for an electronic health record which would break down organisational barriers to information, resolve the problems clinicians and managers have accessing data and improve health care for patients.<sup>5</sup> Four years on, progress on the development of the electronic health record has been slow. Primary care trusts (PCTs) need information to make crucial decisions and cannot wait for the electronic health record to arrive, so they must work with what is currently available.

Primary care groups (PCGs) were established in 1999 and were given responsibility for the delivery and development of primary and community services for local populations.<sup>6</sup> PCGs were subcommittees of health authorities and therefore did not take full responsibility for commissioning and delivering health care. PCGs had new responsibilities for information systems. Initially, these were often fulfilled by health authorities, which had over many years developed information and information technology (IT) departments with staff skilled in both information analysis and technical skills. PCGs were given budgets to develop their own systems to handle their own data requirements, so many procured IT systems and implemented links to NHSnet, email and Internet services.<sup>7,8</sup>

The subsequent abolition of the old health authorities, their replacement by strategic health authorities and the rapid development of PCTs have resulted in a major shift in responsibility for information management and technology (IM&T).<sup>9</sup> PCTs are now responsible for meeting their own information requirements and for developing IT systems to deliver the information required for clinical care and management of the service. Furthermore, PCTs are responsible for the development of information and IT systems in general practice as they now hold the budget for such developments, a role previously undertaken by health authorities.

PCTs first need to establish what information they require and then develop the appropriate information systems and flows to ensure they obtain accurate, up-to-date, reliable and timely information. PCTs require a wide range of information from health service providers, including information on access to and use of services, health needs, financial information, workforce data and information to support effective clinical practice. In addition to meeting their own needs for information, PCTs also have to produce information required by government and the NHS, including information on the implementation of National Service Frameworks (NSFs), progress against various national targets for NHS modernisation and performance management targets required by strategic health authorities. PCTs also have a developmental role in terms of information. As they now hold

75% of the healthcare budget, they are a key stakeholder and have a vast array of information needs if they are to ensure that health care meets the needs of the local population.<sup>9</sup> They must therefore take a central role in ensuring that healthcare providers (and therefore information providers) develop high-quality data which are reliable and accurate. This means not only supporting the development of information and IT systems within general practice but also across all healthcare providers within the health economy.

As PCTs hold the budget for developing general practice systems, they have a clear role in improving information systems and encouraging practices to develop excellent information management processes to improve data. General practices are a key source of information for PCTs. In England, levels of computerisation in general practice are very high; however the quality of data produced by these systems is variable. In recent years some practices have realised the benefits of high-quality information and have instigated standards for entering data, coding and data extraction; others have not. The primary purpose of the data held on general practice systems is to support clinicians in caring for patients. However, the data held on such systems has much wider benefits. It may be used for service planning, monitoring quality standards and developing future services to meet the needs of the local population. The focus of the research presented here is on the information required by primary care groups and trusts (PCG/Ts) in planning, managing and improving service delivery.

Furthermore, whilst PCTs use data from many sectors, including secondary care and social care, this paper focuses primarily on the flow of information between PCTs and general practice by drawing on the evidence from the third National Tracker Survey of Primary Care Groups and Trusts. This survey has over the last three years collected data on the development of IM&T in PCG/Ts and general practices. The findings presented describe the progress made by PCG/Ts and practices in developing information and information systems to support the information needs of PCG/Ts.

## Methods

The National Tracker Survey is a longitudinal survey of PCG/Ts. The survey uses a 15% random sample, which is geographically representative.<sup>10</sup> Three surveys have now been completed. The first was in 1999/2000 and the original sample included 72 PCGs. In subsequent years, the sample reduced as a result of mergers between PCGs. In 2000/2001 the sample was

71 and in 2001/2002 the sample reduced to 68.<sup>10-12</sup> The survey used a range of techniques, including face-to-face interviews, telephone interviews and postal questionnaires. The findings presented in this paper draw on the responses of IM&T leads to postal questionnaires. In the first year the response rate to the IM&T lead questionnaire was quite poor. Only 38 leads (53%) returned their questionnaire. At that time PCGs had been in operation for only six months and 14 PCGs were unable to identify an IM&T lead, which may account for the low response rate. The response rate for the second survey showed a substantial increase to 72% (51) and in the third survey the response rate was 65% (44).<sup>13,14</sup> Findings presented in this paper are drawn primarily from the latest survey conducted between January and March 2002. At the time of the third survey, 54% of our sample were PCGs and 46% had already become PCTs. The remaining PCGs made the transition to trust status in April 2002. The same questionnaires were used for PCGs and PCTs, and results are combined in the analysis. Comparisons with data from the second survey (2000/01) are shown where appropriate. Unless otherwise stated, results are derived from the 2001/02 survey.

## Results

### Information needs of PCG/Ts

To make effective decisions PCTs need access to high-quality data that are both accurate and reliable. In

order to ensure they have appropriate data they must identify exactly what data they need. However, by early 2002 fewer than half (45%,  $n=21$ ) of the PCG/Ts in our sample had undertaken an information needs assessment.

Throughout the three years of the survey IM&T leads felt that information systems were not meeting their needs. Fewer than half of the respondents said that information systems were meeting their needs well or very well for any of the principal functions (see Table 1). Apart from prescribing information and information to support budget monitoring, fewer than a quarter of IM&T leads felt that information was meeting their needs well. The comparison of responses in the second and third years of the survey suggests only very gradual improvement, apart from budget monitoring information, which appeared to have improved for many PCG/Ts. Information to support key areas of activity such as health needs assessment, workforce planning, commissioning and clinical governance remained poor in most PCG/Ts.

### Information to support service development

The introduction of national standards for clinical care has been a key development in the NHS. National Service Frameworks have been agreed for coronary heart disease (CHD), mental health, older people and diabetes. Fifty-two percent ( $n=23$ ) of PCG/Ts identified monitoring quality standards as a key priority for developing information and 82% ( $n=36$ ) were already systematically collecting data to monitor

**Table 1** How well do information systems meet the needs of PCG/Ts? (Scale: 1 = Not at all to 5 = Very well)

	1 and 2 Not at all or Poorly				3 Average				4 and 5 Well or Very well			
Function	2000/01 % <i>n</i>		2001/02 % <i>n</i>		2000/01 % <i>n</i>		2001/02 % <i>n</i>		2000/01 % <i>n</i>		2001/02 % <i>n</i>	
Health needs assessment	72	36	62	26	22	11	24	10	6	3	14	6
Commissioning	50	25	41	17	36	18	38	16	14	7	22	9
Monitoring service provision	55	26	39	16	36	17	44	18	9	4	17	7
Clinical governance	63	31	48	20	20	10	38	16	16	8	14	6
Budget monitoring	39	18	15	6	33	15	37	15	28	13	49	20
Workforce planning	70	33	63	26	23	11	27	11	6	3	10	4
Prescribing	29	14	20	8	31	15	39	16	41	20	42	17

care for CHD. However, other NSFs fared less well, with 26% ( $n=11$ ) collecting data on mental health provision and 19% ( $n=8$ ) collecting data on services for older people. At the time of the 2001/02 survey the diabetes NSF had not been released and was therefore not included in the survey. Other priorities for developing information were knowledge-based information to support clinical governance (39%,  $n=17$ ) and prescribing cost data (34%,  $n=15$ ).

To develop primary care services, PCTs need information about service provision and utilisation. Table 2 shows that in many key areas, including use of investigations by general practitioners (GPs), the number of GP consultations and the number of practice nurse contacts, data were not available to a large proportion of PCG/Ts. The data that were available focused largely on key national targets such as GP referrals to specialists and waiting times for GP appointments. Furthermore, although many had access to data aggregated to PCG/T level, few had data at individual GP level.

It is interesting to note that only 21% of PCG/Ts obtained information about GP referrals from GP systems. The majority (68%) accessed such data from hospital-based information systems. This may be because they have better access to hospital data than to practice-based data, or because they feel that hospital data are more reliable. The following section explores the issue of data quality in more detail.

## Data quality and standardisation

The quality of data available to PCG/Ts is extremely important. In the previous section it was noted that

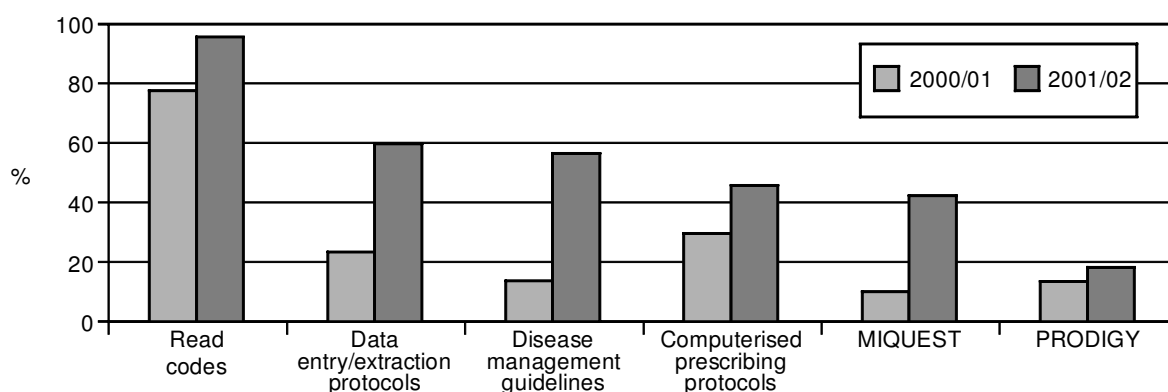
only a minority of PCG/Ts obtained data on GP referrals from general practice systems. The survey also found that only 21% of PCG/Ts felt that data from general practice systems were good or excellent. However, data from hospital systems fared only slightly better with 24% stating that hospital data were good or excellent. Hence it is unlikely that the perceived quality of data is a key influence in deciding which data to use, it may simply be that PCG/Ts have better access to hospital-based data than to data held on general practice systems.

Apart from community health service and local authority data, which were rated as poor by the vast majority of PCG/Ts (76% and 70% respectively), data quality appears to be improving slightly. In 2000/01, 62% felt that data from general practice systems were poor or very poor but this reduced to 42% by 2001/02. Similarly, data from hospital systems were thought to be poor or very poor by 62% of PCG/Ts in 2000/01 and only 45% in 2001/02.

Since the second survey there has been a perceived improvement in the quality of data. In terms of general practice data this apparent improvement may be linked to the trend in PCG/Ts to adopt data quality standards. By the time of the 2001/02 survey almost two-thirds (64%) had adopted standards for data entry/extraction, compared to 20% in the 2000/01 survey. Fifty percent had adopted data coding standards and 43% had standards for GP clinical software. Furthermore, the use of protocols for data entry and MIQUEST for data extraction had increased substantially, reflecting the increased priority both PCG/Ts and practices have given to improving the quality of data held on general practice systems (see Figure 1).

**Table 2** PCG/T access to information about services provided by general practice

Function	Information available by GP		Information available by practice		Aggregate information for PCG/T		Information not available/don't know	
	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
GP referral to specialist	39	17	73	32	78	34	23	10
GP use of investigations	16	7	34	15	34	15	66	29
GP referral to community	21	9	53	23	62	27	39	17
Number of GP consultations	21	9	39	17	39	17	61	27
Number of GP home visits	18	8	34	15	34	15	66	29
Practice nurse contacts	11	5	22	10	24	11	75	33
Waiting times for GP appointments	7	3	59	26	59	26	41	18
Number of out-of-hours calls	25	11	55	24	55	24	46	20



**Figure 1** Percentage of PCG/Ts reporting more than 50% of practices using common information management tools

Involvement in the Primary Care Information Services (PRIMIS<sup>15</sup>) initiative launched in 2000 had also increased significantly from 23% in 2000/01 to 57% in 2001/02. Forty-one percent already employed between one and four PRIMIS facilitators and a further 27% planned to employ one or more facilitators. This may also account for the surge in the use of MIQUEST by practices.

In terms of clinical systems standards, although 43% of PCG/Ts had no policy regarding the choice of general practice systems, 58% had between one and four systems in operation. Twenty-five percent of PCG/Ts had only one or two clinical systems in use by practices, 48% three or four systems and 23% five or more systems. Single system policies, where PCG/Ts are aiming to get all practices using the same clinical software, were still rare with only seven (16%) PCG/Ts adopting such a policy, compared with five (10%) in 2000/01. However, a further 27% were restricting choice to two systems and 9% to three or more systems. The main reasons for standardising clinical systems were to make it easier to provide user support and training, to develop better information sharing and to improve data quality.

## Discussion

PCTs have a range of information needs that must be met in order for them to function efficiently. Our findings make it apparent that these needs are not currently being met in many cases and that progress over the past couple of years has been slow. Although almost half have undertaken an information needs assessment, so that at least they know what their information needs are, the remainder have yet to make a formal assessment of their needs.

Perhaps the most important source of information to support effective and efficient management of the service and to raise quality standards is general practice. While a majority of PCG/Ts was collecting data to support the CHD NSF, most were not yet collecting data to support the implementation of the NSFs for mental health and older people. This may be because they are struggling to decide exactly what data they need to collect, or simply because the data they require are not available. Many PCTs were collecting data to monitor service provision in general practice, but this has so far centred on national targets such as waiting times for GP appointments and information on referrals to hospital. However, it is difficult to see how PCTs will be able effectively to manage their budgets and services without information on what they are providing. The absence of information about such basic things as the number of consultations, use of investigations or number of patient contacts with practice nurses represents a serious gap in the information needed for effective and efficient management. To be useful such information needs to be capable of analysis at least at practice level and ideally at the level of the individual GP. PCTs are collecting data on GP referral rates from hospital systems, suggesting either that they have limited access to information from practice-based systems or that they do not trust the data held on practice-based systems. However, their view of both hospital- and practice-based data is that they are not of sufficiently high quality.

In December 2001, the Information Modernisation Board indicated that standards were needed and, more recently, the new information strategy called for 'ruthless standardisation'.<sup>4,16</sup> Our evidence suggests that most PCG/Ts had accepted the need for standardisation as the survey has shown a steady increase in the use of standards for data entry, coding and even for GP clinical systems. The third survey has also shown that PCTs and practices have made substantial progress in

developing the use of information management tools.

When PCGs were first established in 1999 they had very few staff and many had no IM&T staff at all.<sup>7,10</sup> Many did not have a clear understanding of their role in developing practice-level IM&T, this responsibility falling awkwardly between health authorities and PCGs. Over the past three years, the role and responsibilities of PCG/Ts regarding IM&T has become much clearer. PCTs now have full responsibility for the development of practice systems and for funding developments. They also have a key role to play in implementing the local implementation strategy and have access to staff with IM&T skills, although most still feel that this is inadequate. The survey shows that PCTs have begun to take up the challenge and improve data quality in general practice.

The new information strategy finally puts *Information for Health* into the context of the organisational changes introduced by the development of PCGs and PCTs, and firmly identifies the responsibilities PCTs will have for primary care information systems. PCTs have a pivotal role to play and they are already beginning to identify key priorities and areas for development. In certain areas they have begun to achieve some of these goals. However, they must build upon the groundwork they have begun over the past three years. They must develop their relationships with general practice and support practices in developing high-quality information.

The survey shows that practices have taken on board many initiatives to improve data quality. This is extremely important to PCTs who need a vast array of information from practices to support service development and decision making. However, it is also vitally important in terms of patient care. The role of PCTs in developing health information systems does not start and end with general practice. They also have wider responsibilities in the local health economy and must take some responsibility for the development of IM&T across the board. This means they must take an active role in ensuring that data quality in other sectors such as acute trusts, mental health trusts and even local authorities is improved.

PCTs must develop a workforce that is not only computer-literate but one that values information and endeavours to maximise the potential of the information held on health information systems. Organisational changes create huge upheaval and certainly the introduction of PCGs and PCTs has created unprecedented changes in primary care. Initially the IM&T agenda was not a high priority for PCGs and PCTs, but this is beginning to change. There is still a long way to go before information providers are generating meaningful information to support the needs of PCTs, but PCTs have already begun to lay the foundations.

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## CONFLICTS OF INTEREST

None.

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